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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/780,582  | 02/19/2004  | Robert Elliott       | 118614              | 2485             |
| 25944   | 7590        | 07/01/2005           | EXAMINER            |                  |
| OLIFF & BERRIDGE, PLC<br>P.O. BOX 19928<br>ALEXANDRIA, VA 22320 |             |                      | HANAN, DEVIN J      |                  |
|   |             |                      | ART UNIT            | PAPER NUMBER     |
|   |             |                      | 3745                |                  |

DATE MAILED: 07/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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|                              |                                      |                                       |  |
|------------------------------|--------------------------------------|---------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/780,582 | <b>Applicant(s)</b><br>ELLIOTT ET AL. |  |
|                              | <b>Examiner</b><br>Devin Hanan       | <b>Art Unit</b><br>3745               |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3 and 10 is/are allowed. .
- 6) ☒ Claim(s) 1-2, 4-9 and 11-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>2/19/2004</u> . | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claim states "the contact portions have a diamond or circular or other shape", rendering the claim indefinite, as the contact portions can have any shape. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 4, 5, as far as it is definite, 7-9 and 11-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Brownhill et al. (U.S. Patent 2,656,147).

Brownhill et al. discloses a damper seal for vibration control, with an entrant surface for close association with an aperture in a mounting platform for components, the entrant surface having contact portions to engage the aperture to allow vibrational

coupling therebetween (col. 1 lines 33-35) and recessed paths (16a, 9b) to allow coolant flow about those contact portions across the entrant surface, said paths being both angled and staggered relative to one another.

Regarding claim 2, Brownhill et al. discloses the paths are formed by direct channels (9b) or grooves (16a), which extend across the entrant surface.

Regarding claim 4, Brownhill et al. discloses the paths have an elliptical cross-section (16a).

Regarding claim 5, Brownhill et al. discloses the contact portions have a diamond or circular or other shape (contact surface between disc 11 and seal 7 is annular) in order to facilitate coolant flow across the entrant surface through the paths.

Regarding claim 7, Brownhill et al. discloses the entrant surface is configured for association with the aperture in order to substantially plug that aperture (figure 1).

Regarding claim 8, Brownhill et al. discloses the entrant surface is designed through differential thermal expansion to present the paths with variable available cross-section for coolant flow (there exists a thermal gradient, col. 1 lines 1-13, so the temperature of the seal will fluctuate and therefore change the cross-section of the path).

Regarding claim 9, Brownhill et al. discloses the seal is formed from seal elements held in close association with respective surfaces in abutment to form the seal (7a, 7b, 18a and 18b are held in close to one association).

Regarding claim 11, Brownhill et al. discloses an aperture of a mounting platform structure for turbine blades, the platform structure including a coolant cavity and the

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damper seal coupled to that cavity to enable coolant to flow across the entrant surface (col. 1 lines 1-53).

Regarding claim 12, Brownhill et al. discloses the seal as part of a turbine engine (col. 1 lines 1-3).

Claims 1, 5, as far as it is definite, 6-8 and 11-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Bobo (U.S. Patent 5,156,528).

Bobo discloses a damper seal for vibration control, with an entrant surface for close association with an aperture in a mounting platform for components, the entrant surface having contact portions to engage the aperture to allow vibrational coupling therebetween (col. 1 lines 24-34) and recessed paths (grooves seen in figure 4 are capable of allowing cooling flow) to allow coolant flow about those contact portions across the entrant surface, said paths being both angled (not all grooves lie in the same plane) and staggered (not in a repeating pattern) relative to one another.

Regarding claim 5, Bobo discloses the contact portions have a diamond or circular or other shape (contact surface between disc 11 and seal 7 is annular) in order to facilitate coolant flow across the entrant surface through the paths.

Regarding claim 6, Bobo discloses the entrant surface has a sloped ridge configuration (figure 4).

Regarding claim 7, Bobo discloses the entrant surface is configured for association with the aperture in order to substantially plug that aperture (figure 1).

Regarding claim 8, Bobo discloses the entrant surface is designed through differential thermal expansion to present the paths with variable available cross-section for coolant flow (there exists a thermal gradient, which causes material growth col. 1 lines 13-20).

Regarding claim 11, Bobo discloses an aperture of a mounting platform structure for turbine blades, the platform structure including a coolant cavity and the damper seal coupled to that cavity to enable coolant to flow across the entrant surface (figure 1).

Regarding claim 12, Bobo discloses the seal as part of a turbine engine (col. 1 lines 10-23).

### ***Prior Art***

The patent to Tibbott et al. (U.S. Patent 5,531,457) was cited for its teaching of a damper seal with another form of angled cooling air passage.

The patent to Hendley et al. (U.S. Patent 4,872,812) was cited for its teaching of a triangular damper seal with paths from the cooling section to the working fluid section.

The patent to Clevenger et al. (U.S. Patent 4,767,260) was cited for its teaching of a damper seal with passages for cooling fluid to flow between the stator vane platforms.

***Allowable Subject Matter***

Claims 3 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Devin Hanan whose telephone number is 571-272-6089. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Look can be reached on 571-272-4820. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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6/27/05